Math Interventions Update

A Monthly Update for the Latest in Math Interventions

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School-Wide Strategies for Managing Mathematics

Math Instruction: Maintain a Supportive Atmosphere for Classroom "Math Talk" (Cooke & Adams, 1998). Teachers can promote greater student 'risk-taking' in mathematics learning when they cultivate a positive classroom atmosphere for math discussions while preventing peers from putting each other down. The teacher models behavioral expectations for open, interactive discussions, praises students for their class participation and creative attempts at problem-solving, and regularly points out that incorrect answers and misunderstandings should be celebrated—as they often lead to breakthroughs in learning. The teacher uses open-ended comments (e.g., "What led you to that answer?") as tools to draw out students and encourage them to explore and apply math concepts in group discussion. Students are also encouraged in a supportive manner to evaluate each other's reasoning.

Math Homework: Motivate Students Through Reinforcers, Interesting Assignments, Homework Planners, and Self-Monitoring *(Bryan & Sullivan-Burstein, 1998).* Improve students' rate of homework completion and quality by using reinforcers, motivating 'real-life' assignments, a homework planner, and student self-monitoring. (1) Reinforcers: Allow students to earn a small reward (e.g., additional free time) when they turn in all homework assignments for the week. (2) 'Real-life' Assignments: Make homework meaningful by linking concepts being taught to students' lives. In a math lesson on estimating area, for example, give students the homework task of calculating the area of their bedroom and estimating the amount of paint needed to cover the walls. (3) Homework Planner: Teach students to use a homework planner to write down assignments, organize any materials needed for homework, transport completed homework safely back to school, and provide space for parents and teachers to communicate about homework via written school-home notes. (4) Student Self-Monitoring: Direct students to chart their homework completion each week. Have students plot the number of assignments turned in on-time in green, assignments not turned in at all in red, and assignments turned in late in yellow.

Article Excerpt from *Intervention Central*. Read the entire the article at http://www.interventioncentral.org/academic-interventions/math/school-wide-strategies-managing-mathematics

Department of Education
Office of Next-Generation Learners
Division of Learning Services
Differentiated Learning Branch
Division Director: Johnny Collett
Branch Manager: April Pieper
Mathematics Intervention Consultant: Pamela Pickens

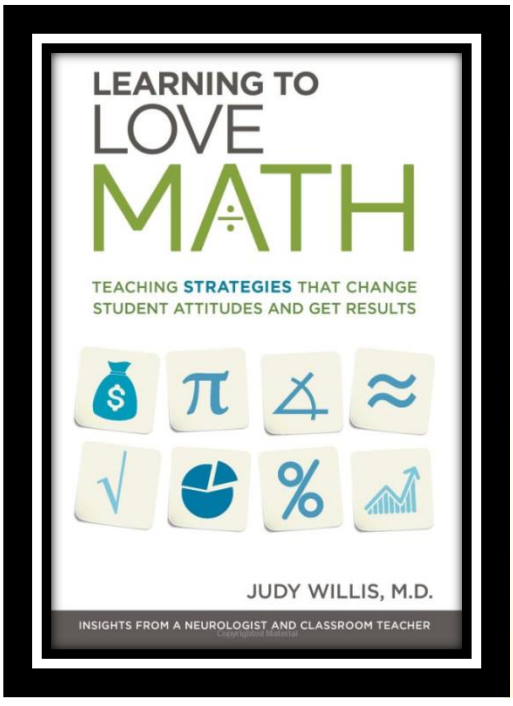
Mathematics Achievement Fund (MAF)

Monthly Update/Focus

Grant Funding – According to Kentucky Department of Education's Finance Office, the grant funding will remain the same for the 2013-2014 school year. The award amount will be $41,000. Please let your district's finance and budget director know that there will be no change in funding for next school year, so they may proceed with planning.

2013-2014 Assurance Statement – Final revisions are being made to the Assurance statement for the 2013-2014 school year. As soon as all revisions are complete and approved, the document will be made available to all schools and districts involved with the Mathematics Achievement Fund.

End of Year – The end of the school year is fast approaching. Please remember that all MITs must submit end-of-year reports for KDE, including a list of MAF expenses and an inventory of the school's MAF grant program property.



Recommended Reading

Learning to Love Math: Teaching Strategies that Change Students Attitudes and Get Results

by Judy Willis (July 13, 2010)

Dr. Judy Willis responds with an emphatic yes in this informative guide to getting better results in math class. Tapping into abundant research on how the brain works, Willis presents a practical approach for how we can improve academic results by demonstrating certain behaviors and teaching students in a way that minimizes negativity.

Mathematical Practice of the Month

To emphasize the Mathematical Practices, the CCSS gives them their own distinct section, but they are not to be thought of as a separate skill set to be handled in special lessons or supplements. The intent is that these *essential mathematical habits of mind and action* pervade the curriculum and pedagogy of mathematics, K–12, in age-appropriate ways.

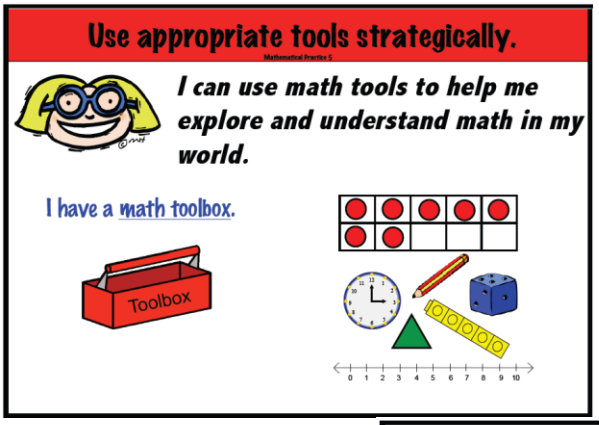
5 – Use appropriate tools strategically.

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

Resource: Common Core State Standards Initiative http://www.corestandards.org

Anchor Charts for this Mathematical Practice

Resource: Jordan School District http://elemmath.jordandistrict.org/files/2012/05/Standard-51.pdf



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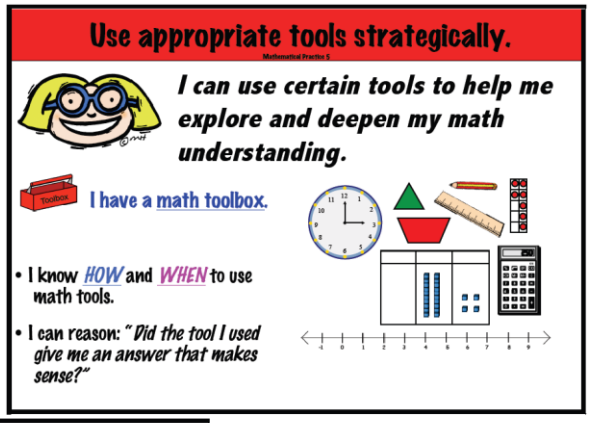
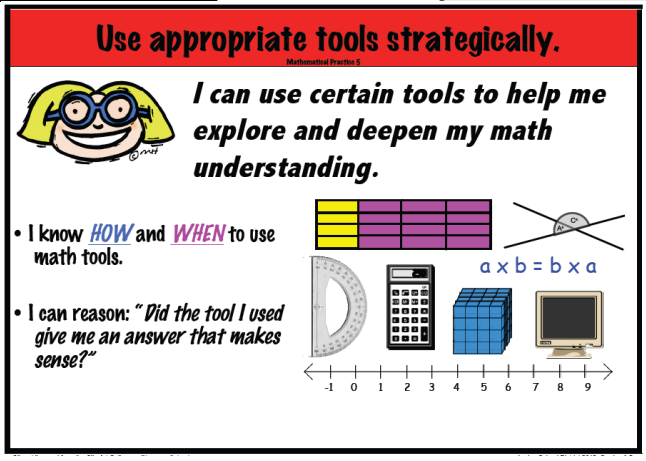
Bottom – 4-5





What is CIITS?

CIITS stands for the Continuous Instructional Improvement Technology System – a tool designed to pull standards, instructional materials, lesson plans, assessments, data and professional development all together into an integrated online resource. CIITS is a one-stop shop that provides Kentucky educators with the resources aligned to standards that support highly effective teaching and learning in their classrooms, schools and districts.

Featured Link this Month: PD 360°

PD 360° was highlighted in the March 2013 Monthly Newsletter. This month please take a moment to check out the following videos about formative assessments:

- Keeping an Eye on Assessments http://www.pd360.com/index.cfm?ContentId=4536
- Formative Assessments http://www.pd360.com/index.cfm?ContentId=2524
- Self-Assessments in Formative Assessments http://www.pd360.com/index.cfm?ContentId=2525
- Thinking Maps as Formative Assessments http://www.pd360.com/index.cfm?ContentId=4839

Dates to Remember

April 17th – 20th – NCTM Annual Meeting and Exposition, Denver, Colorado

November 6th – 8th – NCTM Regional Conference and Exposition, Louisville, Kentucky

Committee for Mathematics Achievement (CMA)

The Committee for Mathematics Achievement was legislated in 2005 by the Kentucky General Assembly to "have the ongoing responsibility for providing advice and guidance to policymakers in the development of statewide policies and in the allocation of resources to improve mathematics achievement." The CMA consists of 25 members representing the following organizations: the Kentucky Department of Education; the Council on Postsecondary Education; the Association of Independent Kentucky Colleges and Universities; each of the nine public postsecondary education institutions; the Kentucky Community and Technical College System; Adult Education; the Education Professional Standards Board; the Education and Workforce Development Cabinet; the Kentucky Center for Mathematics; the Association of School Administrators; and the Kentucky Education Association. The committee meets monthly to discuss a variety of topics and current issues.

The committee released a position statement related to mathematical fluency and response to intervention in February 2012. The opening paragraph of the statement is below, but read the entire statement at http://www.nku.edu/~kcm/viewtopic.php?f=74&t=895.

Mathematical Fluency and Response to Intervention (RtI)

Effective implementation of the Kentucky Core Academic Standards for Mathematics (KCASM, also known as the Common Core State Standards for Mathematics (CCSSM)), in connection with Response to Intervention (RtI), calls for the deliberate teaching and learning of foundational progressions leading to mathematical fluency and proficiency. Mathematical fluency is defined in this document as a deep understanding of mathematical concepts, which results in the facility to efficiently and accurately access, compare, and apply strategies, knowledge, and skills in a variety of contexts. The current mathematics reform movement in Kentucky presents an opportunity to support intensive teacher growth, including the development and provision of appropriate resources, for understanding and facilitating numeracy development through careful assessment and instruction of student foundational fluency progressions.

Wonderful Websites

- ***Mathlanding*** – This site is designed with the elementary math specialist/coach/mentor and teacher in mind. It's a resource to help support the professional development needs of elementary educators in building mathematical knowledge and instructional practice. The site is created to provide organized access to high quality resources and tools that support teaching and learning of elementary mathematics. http://www.mathlanding.org

- ***The Math Forum*** - The Math Forum provide resources, materials, activities, person-to-person interactions, and educational products and services that enrich and support teaching and learning in an increasingly technological world. http://www.mathforum.org

- ***Interactive Math Websites and Resources from the Teacher's Guide*** – This page offers a wide variety of tools to use with interactive white boards. http://www.theteachersguide.com/InteractiveSitesMathSmartBoard.htm